ODP 423-77

MEMORANDUM FOR: Director of Personnel

FROM   :   Clifford D. May, Jr.
                   Director of Data Processing

SUBJECT   :   Efficiency Evaluation of Applicant
                   Processing Study   STATINTL

REFERENCES   :   a. Report on Efficiency Evaluation of Applicant
                       Processing, by ███████████████ OP/Plans
                       Staff, dtd 22 December 1976

                   b. Memo to D/OP fm C/M&AS/DDA (DDA 77-0522),
                       dtd 1 February 1977, Subject: Efficiency
                       Evaluation Study of Applicant Processing
                       Data Controls

                   c. Memo to DD/A fm C/M&AS/DDA (DDA 77-0340),
                       Dtd 19 January 1977, Same Subject

1.   The Efficiency Evaluation of Applicant Processing
Study (Reference A) was submitted to ODP in anticipation of
future coordination as required under ███████ We appreciate STATINTL
this submittal prior to procurement and the effort that went
into the study. The attached memo highlights some areas that
need more examination before ODP could concur in the proposal
for a stand-alone minicomputer for Applicant Processing.

2.   Word processing equipment, when acquired separately
from a computer and not interfacing with a computer, does not
require ODP coordination. Coordination is required with the
DDA Information Systems Analysis Staff (ISAS) instead.

STATINTL   STATINTL
      3.   Please feel free to have your officers contact
Mr. ████████████████████████ if there are any questions
regarding the attachment.

                                    ████████████████████
                                    Clifford D. May, Jr.

Att: a/s

Distribution:
Orig & 1 - Addressee
     1 - ODP Registry
STATINTL   1 - O/D/ODP

O/D/ODP/████████mlc/8March1977

8 March 1977

MEMORANDUM FOR THE RECORD

SUBJECT: Office of Personnel Efficiency Evaluation of
            Applicant Processing

STATINTL

1.   An advance copy of the Efficiency Evaluation of
Applicant Processing Report was received from the OP/Plans
Staff. The following paragraphs address the areas that ODP
expects to see in a systems study when coordinating ADP equip-
ment procurement under ███████ The Office of Logistics report,
"Guidelines for the Preparation of Specification, Selection
and Acquisition of ADP Systems" and the Federal Procurement
Regulations, etc., referred to in this report are used by ODP
as basic references.

2.   Description of Problem: The description in the
report is complete.

3.   Suitability of an ADP Solution: In the report it
is assumed that the application is suitable for ADP implemen-
tation. Other alternatives that were examined should be
described before presenting this conclusion.

4.   System Requirements: The requirements of a total
system to solve the problem are never stated. They are included
in the description of the minicomputer alternative, in the list
of tangible and intangible benefits, and in the description of
Word Processing Equipment. A complete set of mandatory and
desirable requirements is necessary to evaluate ADP alternatives.

In the Cost Tradeoffs the systems life is implicitly
specified as 5 years. This figure should follow from the
requirements and should be specified.

5.   ADP Alternatives: In examination of ADP alternatives
the ODP on-line system inadequacy is expressed in general terms.
ODP takes issue with the statement of poor on-line reliability,
poor response time, major coding and key punching efforts, etc.,
when the requirements for the application are not stated. Other
ODP service alternatives are not mentioned.

The minicomputer alternative is assumed as the best alternative and the study proceeds to discuss implementation concepts. Again, requirements, _per se_, are not addressed. Competitive procurements based on fuctional requirements are preferred by GSA and the Office of Logistics. A market survey based on requirements would be necessary to justify a non-competitive procurement of a particular vendor's system.

6. <u>Cost Analysis</u>: Terminal costs are normally paid by the customer rather than ODP for stand alone systems. Software, programming, training, operating supplies, and programmer/ consultant costs are not included in the analysis. And, the analysis does not use the "present value discount methodology". There should also be a cost analysis of alternative ADP solutions, such as the ODP interactive system, if alternative solutions meet the system requirements.

STATINTL

C/P&PG/MS/ODP

ROUTING AND RECORD SHEET

STATINTL

SUBJECT: (Optional)

EFFICIENCY EVALUATION OF APPLICANT PROCESSING

FROM: ▮▮▮▮ OP/Plans Staff 1006 Ames	EXTENSION ▮▮▮	NO. ODP # 311/77
		DATE 15 February 1977 STATINTL

STATINTL

TO: (Officer designation, room number, and building)	DATE		OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
	RECEIVED	FORWARDED		
1. ▮▮▮▮ ODP 2E 29 Hqs.				This is an advance copy for your information as we should be dealing with you in the future on the procurement of hardware and software for this system.
2.				STATINTL
3.				▮▮▮▮▮▮▮
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EFFICIENCY EVALUATION

OF

APPLICANT PROCESSING

STATINTL

OP/Plans Staff

22 December 1976

1. Introduction

The purpose of this project was to survey a system on data control of applicant processing to seek cost savings and service improvement. This study determined the efficiency and effectiveness of using a computer to control applicant files, and to record and summarize data on numbers of files, movement of files, length of time in process, EEO reports and the disposition of files. The project also examined the use of high speed word processing equipment to reduce personnel costs and to improve service to applicants.

In addition the project studied the impact of current and anticipated new requirements in applicant data control. Assessments were made as to whether the program is accomplishing its stated (or perceived) goals, and whether the program would be able to function given new goals or requirements.

2. Problem

The main problem in the control of applicant data can be summed up in one word...."volume". The applicant process puts into the system 4,300 professional files and 2,000 clerical files, and requires the production of 36,000 letters per year. To these letters and files is added the record of actions taken on each application. All data must be recorded and be accessed in a timely manner.

Under certain conditions, volume would not be a problem. For example, if it were possible to expand the staff concerned with applicant processing by an unlimited number, it would be very easy to cope with almost any volume. Such expansion is unlikely. It is probable the workload will increase with the new reports now required.

The answer therefore is a more efficient operation,--a system that through better methods and increased productivity can do more with less people.

3. Actions Taken To Increase Productivity

Some of the steps to increase productivity have already been taken. For example, the use of preprinted letters for interim notifications and courtesy replies has been initiated and already expanded in scope. This increased use of preprinted letters has saved about one clerk-typist (GS-4) day per week, has reduced the in-office time necessary to prepare the letters and has decreased the extent of review of letters

-1-

before release. (The letters now preprinted were previously prepared on out-moded word processing equipment | in the Correspondence Branch, and required careful review because the machines misprinted frequently).

To cut mailing costs, the use of less expensive mail rates has been introduced. Historically, all printed matter relating to applicants was sent first class mail. Now the use of third class mail for some printed material has cut the cost of postage.

These two steps have increased productivity and have resulted in cost savings in an area which would best be termed "support of applicant data". Obviously by improving the support function we can devote more resources to the control of applicant data. There are even further enhancements to the support role such as an introduction of high speed word processing equipment. But first, the justification for an improved control function must be made.

4. Control Function

The control function now depends on three banks of three by five cards: the largest file, which is maintained by Correspondence Branch, houses some 100,000 cards, the smallest is maintained by Clerical Staffing with about 500 cards, and in the middle is Professional Staffing with about 800 cards.

The cards are used for essentially the same purpose: keeping track of files on applicants. That is, a file is logged out when it leaves the office and logged in upon its return. There are currently four individuals spending 90 percent of their time on this process, and two spending 10 percent.

Some of these persons are also responsible for producing reports about files overdue (have not been returned in allotted time) and about the type of files (special interest cases, mix of professional). The reports all require manual searching and tallying of the files.* Time spent on this process makes up 10 to 15% of total time on the control function.

The next question, of course, is / how well does the current control function work? The answer would have to be that it works, but there is considerable room for improvement. For example, the amount of time spent looking for "lost" files amounts to about 10% to 15% of control processing time. "Lost" files are files that someone failed to log out, the log card was misfiled, the wrong name used, or whatever. The point is that control of the file was temporarily lost and in some cases may be permanently lost.

*Note: special reports require additional person power!

The current system does not provide a quick way to report on items contained in the card files. All reports must be done by hand and when 100,000 cards are involved, the process becomes too laborious and time consuming to be efficient.

Under the current method there is no systematic way to purge out-moded data. When more than two years have elapsed since the last contact with an applicant, there is no reason to maintain any longer the file card on that applicant. In order to purge these "inactive" cards it takes a "summer employee" about three months to remove outdated cards from the Correspondence Branch card files.

With the current system it is almost impossible to locate misfiled cards. Since all cards are filed alphabetically, a card is sometimes in the wrong alphabetical position in the card trays.

There is no multiple access now to the basic file cards in Correspondence Branch, therefore Professional Selection Branch and Clerical Selection Branch must create their own file cards to permit logging and noting of historical data. Consequently, there are redundant card files on applicants.

One of the major drawbacks to the present system is the impracticality of logging applicant files in and out of Correspondence Branch, when files are in the office momentarily to have a letter prepared and then are to be returned to another branch. The clerks simply do not have the time to process the high volume of these files and still remain current in their other duties.

Problems with the current system are:

 *amount of time spent looking for lost files;

 *no efficient reporting capability on maintained data;

 *retiring inactive cards is a very costly operation;

 *misfiled cards cannot be located;

 *no multiple access to data - therefore, three
  redundant systems; and

 *no practical way to log files in and out of
  Correspondence Branch.

The possibility of utilizing the Agency's present on-line computer for applicant data control was explored. However, this approach encountered problems which precluded extensive use of computers. Problems

were: poor on-line reliability, poor response time, major coding and keypunching efforts needed for data entry, and inflexible reporting of stored data.

5. Alternate Approach -- A Minicomputer System

To improve control of applicant files and provide a means by which reports on applicants can be made in an efficient manner, a minicomputer based applicant control system is imperative. A minicomputer system allows on-line access of applicant data, up-to-date reporting on data in the system, and good reliability. The system allows multiple access to the data base, and eliminates the keeping of redundant files.

A significant aspect of the system is its ability to integrate into the normal office function and the ease of utilizing the system as a basis for applicant data control. For example, a typical initial system configuration consists of a minicomputer and three terminals. The minicomputer will be used to replace the current Correspondence card file. By replacing the current card files with a minicomputer, all the logging of files will be maintained on one data base thus eliminating three manual filing systems.

Such a system will immediately release one GS-4 file clerk for other duties, and will significantly reduce the workload of three other clerks. Since the current workload is such that a backlog of files is usually the case, by reducing the workload applicant files will be processed more quickly.

It is possible to use a computer assigned file number to control the files rather than the current use of names. When a file is logged out to an office there will be none of the current inefficient process of pulling and refiling alphabetical cards. The process using the computer will require only inputting a file number and an office designation into the terminal, and this information is then ready to be accessed by all three branches.

Reports on files overdue will be produced automatically and reporting of historical data in the file becomes feasible. Through use of terminals, multiple access is possible and thus closer control of files will become a reality.

Another important aspect of such a system is its ability to adapt to new reporting requirements. With the current system, any new reporting requirement imposes added delays in the processing of applicant files. In order to collect and consolidate data, it is now necessary to stop the processing of applicant files and then turn to the reporting task. Any additional reporting requirements means less time can be spent on applicant processing. With a minicomputer based system, consolidation of the data will be done by the machine with the added advantage that a historical data base is being built.

The amount of time required to input the additional data for the historical base will be minimal in comparison to the amount of time now consumed by the preparation of applicant data.

6. Cost Tradeoffs

With any new way of performing an operation, management needs to know the advantages to be derived from changing the current mode of operation. Long-term cost savings can be achieved by spending money on the right kind of equipment.

The minicomputer selected by this study as a basis for cost tradeoff analysis is the Microdata Reality System. This unit was selected because in an ORD financed study it satisfied established Agency requirements. Also the Reality was the only system which could be purchased for less than 85,000 dollars, including maintenance for five years. (See Appendix III).

At the time of writing of this report, the only major unresolved question which will affect ultimate Microdata computer system cost is the procurement of terminals. Since there may be a requirement to utilize TEMPEST* terminals such as the Delta Data, which would be procured internally through ODP, the ultimate system cost may vary as much as 12,000 dollars.

The personnel costs against which the price of a minicomputer system must be compared are not always straight forward in their computation. It is necessary to make estimates of the time currently involved in the manual preparation of reports and multiply the hours and the current pay scale. In a survey of Staff Personnel Division, it was estimated there are five employees spending a total of 20 hours a week on the manual preparation of reports. The salaries expended in producing these reports are estimated to be 350 dollars per week.

It is feasible to do almost all of the reports as a byproduct of the minicomputer applicant control system. In particular, the delinquent file report which requires a full day to prepare would be automatically produced as a byproduct of the logging operation. There is also a requirement to produce the delinquent file report on a weekly basis which is not possible to do now because of the time necessary to prepare this report. A minicomputer system could cope with this additional report without additional personnel resources.

*emanation suppressed

There are several quarterly reports and frequent ad hoc reports which can be produced by inputting codes into the minicomputer system. This capability will save hours of manual search and preparation of reports. In fact, the minicomputer system can have software designed to produce finished reports and thus save typing time as well.

If a minicomputer is used by Staff Personnel Division for generating reports, it is estimated that 80% of the current reports could be generated by the minicomputer. In terms of current personnel costs, this represents about 74,000 dollars over five years to produce these reports as they are currently being done. (80% x $350 x 52 weeks x 5 years).

Since there is usually a backlog of files to be processed in Staff Personnel Division, any personnel resource which can be released from the reporting function will be utilized to process applicant files in a more timely manner.

In Correspondence Branch a minicomputer applicant control system will allow the logging of files to be done by one person. This means the cost of maintaining a card based applicant control system could be cut by about 53,000 dollars. (See Appendix II).

Implementation of a minicomputer applicant control system will realize a savings in personnel resources amounting to 127,000 dollars over a five year period. The minicomputer will cost a maximum of 79,000 dollars for the same period. Therefore, the minicomputer system will effect a minimum savings of 50,000 dollars in the control of applicant data over a five year period.

Many other tangible and intangible benefits will result from implementation of such a system:

      *system integrates readily into normal office function;

      *multiple access to data base;

      *eliminates redundant card files;

      *historical data base now feasible;

      *ease of inputting and accessing data;

      *files will move more rapidly between branches;

      *better reporting capability;

      *reduction in the number of "lost" files;

      *future expansion capability;

*test ground for other Agency applications; and

*employee job enrichment.

There is a need for similar systems to control documents in the Agency, and the applicant control system could become a test for such applications. Even within the Office of Personnel there are several card-based control methods and, again, a successful applicant control system could be adapted to other types of applications.

It should be noted that ODP has encouraged components to utilize minicomputers in areas where a tie-in to the main computer system would not be appropriate. The applicant control system is just such an application. The on-line reliability and response time of the main system cannot support the applicant control system but a dedicated minicomputer can do the job.

7. Exploration of High Speed Word Processing Equipment

This study explored the application of high speed word processing equipment to reduce personnel costs and to improve service to applicants. This support function consists mainly of correspondence to applicants. The correspondence is comprised of letters in response to queries from applicants and the notifications to applicants of the status of their applications.

This operation creates 36,000 letters annually and is highly dependent on word processing equipment to produce these letters. Present out-dated word processing equipment used in Correspondence Branch consists of six paper tape fed typewriters. These machines are first generation word processing equipment; machines now on the market are fourth generation. Four of the machines now in use are more than eight years old (the usual working life of such a machine is five years), and as a result they are very unreliable.

Presently too much time (three to four hours per day) is spent by two supervisors (GS-9 and GS-11) who must proofread machine produced letters in their entirety. When the paper tape slips in the machine it produces a random string of letters which make no sense. This means that the supervisors' time which should be spent on office management and personnel supervision must be allocated to proofreading letters. Errors also mean that a letter must be retyped and additional delays are imposed. In addition, paper tape machines are not designed for editing letters already stored on tape. This is a distinct disadvantage which precludes individualizing letters.

-7-

To make a recommendation as to a replacement for the current word processing equipment, several manufacturers of word processing equipment were surveyed. Manufacturers included IBM, VYDEC, DEC, and Lexitron. Since installation of word processing equipment in outlying buildings requires TEMPEST testing, most machines had to be eliminated.

The preferred unit is the VYDEC machine which is currently undergoing TEMPEST testing. The VYDEC machine was determined to be most suitable because it is a CRT based word processing unit which permits easy editing. It allows sixty pages of letters to be stored on a single floppy disc, and the printer and CRT can be used independently. This means a letter can be composed from stored paragraphs and then printed while the next letter is being composed. When these factors are combined with the playout speed of 540 words per minute and the ease of operation, the VYDEC forms the basis for an efficient word processing operation.

The VYDEC machine has the added advantage of developing skills which are transferrable to other offices in the Agency. Since Correspondence Branch is an entry area for clericals new to the Agency, skills will be learned which will be easily utilized elsewhere in the Agency.

At least two machines will be needed to replace the six paper tape machines. Three machines are preferred: two machines will be utilized by clerk-typists preparing letters from stored paragraphs; and one machine will be used by the drafter of unique letters. The drafter will use the machine to compose letters on the CRT and then to print letters in final form. This will free a GS-4 clerk-typist, who now types these unique drafts, to do other duties in the office.

Appendix IV cites typical cost for a VYDEC word processing system and the cost of a preferred configuration.

OVERVIEW OF APPLICANT DATA FLOW

The following section gives a description of the flow of applicant data through the system. The description is separated into phases, each phase indicates a movement of the applicant through the hiring process.

Phase 1 can be considered as the point at which initial contact with the prospective employee is made. This contact can be an interview by a recruiter or a letter requesting employment information. It is at this point a contact card is made up, and if resume information is included, a file is made up.

Phase 2 of the process consists of obtaining enough information on the applicant so the initial review of the applicants' qualifications can be made. Generally, this phase of the process consists of getting a Personal History Statement on the individual and making up a file if a file has not already been made up.

Phase 3 in the process is an initial evaluation of the applicant's qualifications. At this point an applicant may be informed that there is no requirement for his/her particular skill/background, or the file may be passed on to Clerical Staffing or Professional Staffing for further review.

Phase 4 differs for clericals and professionals. Phase 4 for professionals consists of "shopping" files to components that may be interested in an individual. For clericals this phase consists of the evaluation of skills to find out if the qualifications exist.

Phase 5 consists of putting the applicant in process or the sending of a reject letter.

Phase 6 consists of entering an applicant on duty or the sending of a disqualification letter.

PERSONNEL COST SAVINGS

To compute direct personnel savings which would be brought about by a minicomputer applicant control system, several assumptions were made:

1) useful life of a computer based applicant control system would be approximately five years.

2) at least one of the current file clerks will be released for other duties.

3) A summer employee would not be required to purge the files.

Type of Employee	Grade	Salary Range	Yearly Cost
Summer	GS-3	7.6k	1.9k
File Clerk	GS-4/5	8.3 - 9.3.k	8.8k average
			10.7k

10.7k X 5 years = $53,500 *

*The additional savings which would accrue to Staff Personnel Division have been discussed in the text.

COST OF MICRODATE REALITY MINICOMPUTER SYSTEM

	COST	MAINTENANCE (5years)
CPU & Tape Drive	30,450	13,500
32k core	7,200	3,000
10 Meg Byte Disk	5,000	900
(2) One Open Port	2,400	1,200
TI Thermal Printer	1,000	———
	46,050	18,600

Total (maint. & hardware) less terminals 64,650

Terminals (3)	10,500	1,800
	56,550	20,400

Total (maint. & hardware) including
Microdata terminals   76,950

APPENDIX IV

Rental Cost* of VYDEC Word Processing Equipment

	Net Monthly Rental on Annual Contract	Installation Fee	Yearly (less Cost install)
1 Machine (Model 1200)	$ 552.90	$110	$ 6634.80
2 Machines (Model 1200)	$1105.80	$220	$13269.60
3 Machines (Model 1200)	$1658.70	$330	$19904.40

*(includes maintenance)

Training

    Free for two operators per machine rented. VYDEC has indicated that it will also provide training for handicapped operators (Correspondence Branch has one handicapped clerk-typist).

Approved For Release 2002/01/08 : CIA-RDP83T00573R000600040017-7

ROUTING AND RECORD SHEET

STATINTL

SUBJECT: (Optional)

EFFICIENCY EVALUATION STUDY
OF APPLICANT PROCESSING DATA CONTROLS

FROM: ▓▓▓▓▓▓▓▓▓▓▓▓ CHIEF, DDA/M&AS 7C18, HQS.	EXTENSION	NO. DDA 77-0522
		DATE STATINTL

TO: (Officer designation, room number, and building)	DATE RECEIVED	DATE FORWARDED	OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
1. DIRECTOR OF PERSONNEL 5E13				
2. HEADQUARTERS				
3.				
DDA/RM&D P&C				
4.				The memo that went forward to the DDA.
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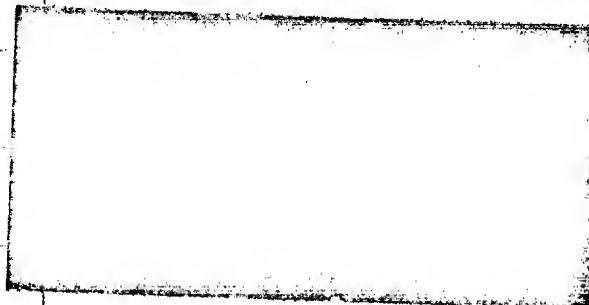
FORM 3-62 610 USE PREVIOUS EDITIONS

Approved For Release 2002/01/08 : CIA-RDP83T00573R000600040017-7

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PERS *η - 334*

DDA 77-0522

1 FEB 1977

MEMORANDUM FOR: Director of Personnel

STATINTL

FROM   :   ███████████████

                  Chief, Management & Assessment Staff, DDA

SUBJECT   :   Efficiency Evaluation Study of Applicant
                  Processing Data Controls

REFERENCE   :   OP Study, Same Subject, dated 22 December
                  1976

        The attached is forwarded for your information and   STATINTL

action.

Attachment:
   M&AS Memo to DDA dated 19 January 1977

PERS *77-298*

19 JAN 1977

STATINTL

MEMORANDUM FOR: Deputy Director for Administration

FROM : ███████████████

Chief, Management & Assessment Staff, DDA

SUBJECT : Efficiency Evaluation Study of Applicant Processing Data Controls

REFERENCE : OP Study, Same Subject, Dated 22 December 1976

1. The attached study was forwarded by the Director of Personnel with reference to the Presidential Management Initiatives, specifically the item concerning efficiency evaluation studies. This was identified to OMB as a study being undertaken by the Agency.

2. The study explores the conversion of a card file control system to a purchased mini-computer. The card file keeps track of the 6300 applicant files received each year, serves as a record of action taken on applicant files, and is a source of reports on those files. At a cost of $77,000, spread over its five-year expected life, the computer system would permit $127,000 worth of personnel resources, during the five-year period, to be applied to other functions in OP. The computer system would also allegedly correct inefficiencies in report preparation, reduce the number of lost files, speed up movement of files, and in general make for a more efficient process.

3. The study also considers leasing three high-speed word processing machines to replace existing outdated equipment used to prepare the 36,000 letters sent each year to applicants. At a cost of about $20,000 per year, this equipment would release one clerk-typist for other duties in OP, would improve quality of supervision, speed up letter preparation, and generally improve quality of service.

SUBJECT: Efficiency Evaluation Study of Applicant
Processing Data Controls

4. The survey offers the prospect of improved effi-
ciencies and significant savings. It is recommended that
you return the study to the Director of Personnel endorsing
the concept and urging that he proceed, in the normal,
prescribed manner, with coordination of the proposal with STATINTL
ODP and ISAS, budgeting for the requirement, etc.

Attachment:
  OP Study as stated

STATINTL

APPROVED: _____ istration   _____
                                                                Date

DISAPPROVED: _____   _____
              Deputy Director for Administration   Date